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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,062	03/31/2004	Chu Wan Hong	4459-144	5268

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EXAMINER

FENTY, JESSE A

ART UNIT PAPER NUMBER

2815

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/813,062

Applicant(s)

HONG, CHU WAN

Examiner

Jesse A. Fenty

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsuta et al. (U.S. Patent No. 6,713,844 B2) in view of Kurogi et al. (U.S. Patent No. 5,578,874).

In re claim 1, Tatsuta (esp. Figs. 1A – 3B and 7A – 10B) discloses a semiconductor package comprising:

a chip (2) having a circuit disposed thereon and a plurality of first bonding pads (10) disposed around the circuit, and the first bonding pads electrically connected to the circuit and an external circuit;

a multi-layer ceramic substrate (1) having a cave (17) formed thereon and a plurality of second bonding pads (22, 20) disposed around the cave, wherein the cave and the plurality of second bonding pads are corresponding to the circuit and the plurality of first bonding pads, respectively; and

an adhesive layer (3) being substantially applied to the surface of the substrate, with the cave and the second bonding pads exposed from the adhesive layer, for tightly bonding the chip and the multi-layer ceramic substrate together such that the circuit of the chip is corresponding to the cave of the multi-layer ceramic substrate so as to form a cavity.

Tatsuta does not expressly disclose vias passing through the ceramic substrate to an external circuit. Kurogi (esp. Fig. 4) discloses a number of via conductors (34, 36) passing through a ceramic substrate (12). It would have been obvious for one skilled in the art at the time of the invention to use via conductors as disclosed by Kurogi for the device of Tatsuta for the purpose, for example, of permitting external connection of the internal circuit (Kurogi; column 2, lines 59-66).

In re claims 2 and 4-6, Tatsuta in view of Kurogi discloses the device of claim 1. The limitations describing the type of chip used is an intended use limitation that does not further define the structure of the semiconductor package device. Terms that simply set forth the intended use, a property inherent in or a function, do not differentiate the claimed composition of these elements from those known to prior art. Therefore, to claim the functionality of the chip, be it SAW, an optical chip, a crystal chip or a MEMS chip, such claims must work to further define the structure of the package, unless the instant claims can be shown to only work with a certain type of semiconductor chip, and limiting all others.

In re claim 3, Tatsuta in view of Kurogi discloses the device of claim 1, wherein the chip is a semiconductor chip.

In re claim 7, Tatsuta in view of Kurogi discloses the device of claim 1, wherein the material of the ceramic substrate is a polymeric material (Kurogi; column 2, lines 59-60).

In re claim 8, Tatsuta in view of Kurogi discloses the device of claim 1, wherein the plurality of first bonding pads are electrically connected to the plurality of second bonding pads by a gold layer (Tatsuta; column 5, lines 30-33).

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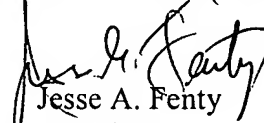
In re claims 9 and 10, Tatsuta in view of Kurogi discloses the device of claim 1, wherein the resin layer (3) of Tatsuta fulfills the claimed language by being formed on the upper portion of the chip and extending downwards to protect that upper surface from moisture.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse A. Fenty whose telephone number is 571-272-1729. The examiner can normally be reached on 5/4-9 1st Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571-272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jesse A. Fenty
Examiner
Art Unit 2815